- wherein R² is an alkyl group, heteroalkyl group, aryl group or heteroaryl group.
- 1 14. (Amended) The diffusion barrier according to claim 13, wherein R² includes
- an alkyl and an aryl group and has the following structure:

$$-(CH_2)_{\overline{n}} - R^5$$

$$R^3 R^4$$

- 3 wherein R³, R⁴ and R⁵ are independently selected from the group consisting of hydrogen, alkyl
- 4 groups, heteroalkyl groups, halo groups, NH₂, NHR⁶, NR⁶R⁷, OH, OR⁶, SH, SR⁶, CHO, COOH
 - and CN, and wherein R⁶ and R⁷ are alkyl groups, and wherein n is an integer ranging from 1 to 5.
 - 15. (Amended) The diffusion barrier according to claim 13, wherein R² has the following structure:

$$-(CH_2)_n - R^3$$

- 3 wherein R³ and R⁴ are independently selected from the group consisting of hydrogen, alkyl
- 4 groups, heteroalkyl groups, halo groups, NH₂, NHR⁶, NR⁶R⁷, OH, OR⁶, SH, SR⁶, CHO, COOH
- and CN, and wherein R⁶ and R⁷ are alkyl groups, and wherein n is an integer ranging from 1 to 5.
- 1 16. (Amended) The diffusion barrier according to claim 14, wherein R³, R⁴ and R⁵
- 2 are hydrogen and n is 2.
- 1 17. (Amended) The diffusion barrier according to claim 15, wherein R² has the
- 2 following structure:

$$-(CH_2)_n$$
 R^3
 R^4

and wherein R³ and R⁴ are hydrogen and n is 2.

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- 19. (Amended) The integrated circuit according to claim 18, wherein the self-1
- assembled monolayer comprises subunits of the following structure: 2

$$\begin{cases} -Q \\ OSi-R^2 \\ -O \end{cases}$$

wherein R² is an alkyl group, heteroalkyl group, aryl group or heteroaryl group.

20. (Amended) The integrated circuit according to claim 19, wherein R² has the 2 following structure:

$$-(CH2)n R3 R4$$

- wherein R³, R⁴ and R⁵ are independently selected from the group consisting of hydrogen, alkyl 3
- groups, heteroalkyl groups, halo groups, NH2, NHR6, NR6R7, OH, OR6, SH, SR6, CHO, COOH 4
- and CN, and wherein R⁶ and R⁷ are alkyl groups, and wherein n is an integer ranging from 1 to 5. 5
- 21. (Amended) The integrated circuit according to claim 19, wherein R² has the 1
- following structure: 2

$$-(CH)_{n} \stackrel{N}{\longleftarrow} R^{3}$$

- wherein R³ and R⁴ are independently selected from the group consisting of hydrogen, alkyl 3
- groups, heteroalkyl groups, halo groups, NH₂, NHR⁶, NR⁶R⁷, OH, OR⁶, SH, SR⁶, CHO, COOH 4
- and CN, and wherein R⁶ and R⁷ are alkyl groups, and wherein n is an integer ranging from 1 to 5. 5
- 22. (Amended) The integrated circuit according to claim 20, wherein R³, R⁴ and 1
- R⁵ are hydrogen and n is 2. 2